

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: )  
Von DEYN et al. ) Group Art: 1626  
Serial No. Continuation of ) Examiner Gerstl  
09/091,300 )  
Filed: June 16, 1998 )  
Issue Fee Paid: December 12, 2000 )

For: 3-(HETEROCYCLYL-SUBSTITUTED BENZOYL DERIVATIVES

PRELIMINARY AMENDMENT

Hon. Commissioner of Patents and Trademarks  
Washington, D.C. 20231

Sir:

Prior to examination of this continuation application, kindly amend the above-identified application as follows:

IN THE CLAIMS

Please cancel claim 24 and amend the claims as shown on the attached sheets.

R E M A R K S

The claims in the case are claims 1-23. Claims 1-23 were not prosecuted in the parent application. The claims have been amended to eliminate multiple dependency. No new matter has been added.

Entry of the above amendment is respectfully solicited.

Respectfully submitted,

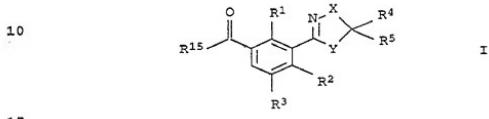
KEIL & WEINKAUF



Herbert B. Keil  
Reg. No. 18,967

**KEIL & WEINKAUF**  
**1101 Connecticut Avenue, N.W.**  
**Washington, D.C. 20036**

5 1. A 3-heterocyclyl-substituted benzoyl derivative of the  
formula I



where the variables have the following meanings:

- 20      R<sup>1</sup>, R<sup>2</sup>    are hydrogen, nitro, halogen, cyano, C<sub>1</sub>-C<sub>6</sub>-alkyl,  
          C<sub>1</sub>-C<sub>6</sub>-haloalkyl, C<sub>1</sub>-C<sub>6</sub>-alkoxy, C<sub>1</sub>-C<sub>6</sub>-haloalkoxy,  
          C<sub>1</sub>-C<sub>6</sub>-alkylthio, C<sub>1</sub>-C<sub>6</sub>-haloalkylthio,  
          C<sub>1</sub>-C<sub>6</sub>-alkylsulfinyl, C<sub>1</sub>-C<sub>6</sub>-haloalkylsulfinyl,  
          C<sub>1</sub>-C<sub>6</sub>-alkylsulfonyl or C<sub>1</sub>-C<sub>6</sub>-haloalkylsulfonyl;
- 25      R<sup>3</sup>        is hydrogen, halogen or C<sub>1</sub>-C<sub>6</sub>-alkyl;
- 30      R<sup>4</sup>, R<sup>5</sup>    are hydrogen, halogen, cyano, nitro, C<sub>1</sub>-C<sub>4</sub>-alkyl,  
          C<sub>1</sub>-C<sub>4</sub>-alkoxy-C<sub>1</sub>-C<sub>4</sub>-alkyl, di(C<sub>1</sub>-C<sub>4</sub>-alkoxy)-C<sub>1</sub>-C<sub>4</sub>-  
          alkyl, di(C<sub>1</sub>-C<sub>4</sub>-alkyl)-amino-C<sub>1</sub>-C<sub>4</sub>-alkyl,  
          [2,2-di(C<sub>1</sub>-C<sub>4</sub>-alkyl)-1-hydrazinol]-C<sub>1</sub>-C<sub>4</sub>-alkyl,  
          C<sub>1</sub>-C<sub>6</sub>-alkyliminooxy-C<sub>1</sub>-C<sub>4</sub>-alkyl, C<sub>1</sub>-C<sub>4</sub>-alkoxycarbonyl-  
          C<sub>1</sub>-C<sub>4</sub>-alkyl, C<sub>1</sub>-C<sub>4</sub>-alkylthio-C<sub>1</sub>-C<sub>4</sub>-alkyl,  
          C<sub>1</sub>-C<sub>4</sub>-haloalkyl, C<sub>1</sub>-C<sub>4</sub>-cyanoalkyl, C<sub>1</sub>-C<sub>6</sub>-cycloalkyl,  
          C<sub>1</sub>-C<sub>4</sub>-alkoxy, C<sub>1</sub>-C<sub>4</sub>-alkoxy-C<sub>2</sub>-C<sub>4</sub>-alkoxy,  
          C<sub>1</sub>-C<sub>4</sub>-haloalkoxy, hydroxyl, C<sub>1</sub>-C<sub>4</sub>-alkylcarbonyloxy,  
          C<sub>1</sub>-C<sub>4</sub>-alkylthio, C<sub>1</sub>-C<sub>4</sub>-haloalkylthio,  
          di(C<sub>1</sub>-C<sub>4</sub>-alkyl)amino, COR<sup>6</sup>, phenyl or benzyl, it  
          being possible for the two last-mentioned  
          substituents to be fully or partially halogenated  
          and/or to have attached to them one to three of the  
          following groups:  
          nitro, cyano, C<sub>1</sub>-C<sub>4</sub>-alkyl, C<sub>1</sub>-C<sub>4</sub>-haloalkyl,  
          C<sub>1</sub>-C<sub>4</sub>-alkoxy or C<sub>1</sub>-C<sub>4</sub>-haloalkoxy;
- 40      or
- 45

5      R<sup>4</sup> and R<sup>5</sup> together form a C<sub>2</sub>-C<sub>6</sub>-alkanediyl chain which can be mono- to tetrasubstituted by C<sub>1</sub>-C<sub>4</sub>-alkyl and/or which can be interrupted by oxygen or by a nitrogen which is unsubstituted or substituted by C<sub>1</sub>-C<sub>4</sub>-alkyl;

or

10     R<sup>4</sup> and R<sup>5</sup> together with the corresponding carbon form a carbonyl or thiocarbonyl group;

15     R<sup>6</sup> is hydrogen, C<sub>1</sub>-C<sub>4</sub>-alkyl, C<sub>1</sub>-C<sub>4</sub>-haloalkyl, C<sub>1</sub>-C<sub>4</sub>-alkoxy, C<sub>1</sub>-C<sub>4</sub>-alkoxy-C<sub>2</sub>-C<sub>4</sub>-alkoxy, C<sub>1</sub>-C<sub>4</sub>-haloalkoxy, C<sub>3</sub>-C<sub>6</sub>-alkenyloxy, C<sub>3</sub>-C<sub>6</sub>-alkynyoxy or NR<sup>7</sup>R<sup>8</sup>;

20     R<sup>7</sup> is hydrogen or C<sub>1</sub>-C<sub>4</sub>-alkyl;

25     R<sup>8</sup> is C<sub>1</sub>-C<sub>4</sub>-alkyl;

X is O, S, NR<sup>9</sup>, CO or CR<sup>10</sup>R<sup>11</sup>;

25     Y is O, S, NR<sup>12</sup>, CO or CR<sup>13</sup>R<sup>14</sup>;

R<sup>9</sup>, R<sup>12</sup> are hydrogen or C<sub>1</sub>-C<sub>4</sub>-alkyl;

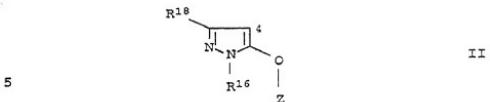
30     R<sup>10</sup>, R<sup>11</sup>, R<sup>13</sup>, R<sup>14</sup> are hydrogen, C<sub>1</sub>-C<sub>4</sub>-alkyl, C<sub>1</sub>-C<sub>4</sub>-haloalkyl, C<sub>1</sub>-C<sub>4</sub>-alkoxycarbonyl, C<sub>1</sub>-C<sub>4</sub>-haloalkoxycarbonyl or CONR<sup>7</sup>R<sup>8</sup>;

or

35     R<sup>4</sup> and R<sup>9</sup> or R<sup>4</sup> and R<sup>10</sup> or R<sup>5</sup> and R<sup>12</sup> or R<sup>5</sup> and R<sup>13</sup> together form a C<sub>2</sub>-C<sub>6</sub>-alkanediyl chain which can be mono- to tetrasubstituted by C<sub>1</sub>-C<sub>4</sub>-alkyl and/or interrupted by oxygen or by a nitrogen which is unsubstituted or substituted by C<sub>1</sub>-C<sub>4</sub>-alkyl;

40     R<sup>15</sup> is a pyrazole of the formula II which is linked in the 4-position

45



where

- 10           R<sup>16</sup>       is C<sub>1</sub>-C<sub>6</sub>-alkyl;
- Z        is H or SO<sub>2</sub>R<sup>17</sup>;
- 15           R<sup>17</sup>       is C<sub>1</sub>-C<sub>4</sub>-alkyl, C<sub>1</sub>-C<sub>4</sub>-haloalkyl, phenyl or phenyl which is partially or fully halogenated and/or has attached to it one to three of the following groups: nitro, cyano, C<sub>1</sub>-C<sub>4</sub>-alkyl, C<sub>1</sub>-C<sub>4</sub>-haloalkyl, C<sub>1</sub>-C<sub>4</sub>-alkoxy or C<sub>1</sub>-C<sub>4</sub>-haloalkoxy;
- 20           R<sup>18</sup>       is hydrogen or C<sub>1</sub>-C<sub>6</sub>-alkyl;
- 25           where X and Y are not simultaneously sulfur; with the exception of 4-[2-chloro-3-(4,5-dihydroisoxazol-3-yl)-4-methylsulfonylbenzoyl]-1-ethyl-5-hydroxy-1H-pyrazole, 4-[2-chloro-3-(4,5-dihydroisoxazol-3-yl)-4-methylsulfonylbenzoyl]-1,3-dimethyl-5-hydroxy-1H-pyrazole, 4-[2-chloro-3-(5-cyano-4,5-dihydroisoxazol-3-yl)-4-methylsulfonylbenzoyl]-1,3-dimethyl-5-hydroxy-1H-pyrazole, 4-[2-chloro-3-(4,5-dihydrothiazol-2-yl)-4-methylsulfonylbenzoyl]-1,3-dimethyl-5-hydroxy-1H-pyrazole and 4-[2-chloro-3-(thiazoline-4,5-dion-2-yl)-4-methylsulfonylbenzoyl]-1,3-dimethyl-5-hydroxy-1H-pyrazole; or an agriculturally useful salt thereof.
- 40           2. A 3-heterocyclyl-substituted benzoyl derivative of the formula I where the variables have the following meanings:
- 45           R<sup>1</sup>, R<sup>2</sup>   are hydrogen, nitro, halogen, cyano, C<sub>1</sub>-C<sub>6</sub>-alkyl, C<sub>1</sub>-C<sub>6</sub>-haloalkyl, C<sub>1</sub>-C<sub>6</sub>-alkoxy, C<sub>1</sub>-C<sub>6</sub>-haloalkoxy, C<sub>1</sub>-C<sub>6</sub>-alkylthio, C<sub>1</sub>-C<sub>6</sub>-haloalkylthio,

$C_1\text{-}C_6\text{-alkylsulfinyl}$ ,  $C_1\text{-}C_6\text{-haloalkylsulfinyl}$ ,  
 $C_1\text{-}C_6\text{-alkylsulfonyl}$  or  $C_1\text{-}C_6\text{-haloalkylsulfonyl}$ ;

- 5            R<sup>3</sup>        is hydrogen, halogen or  $C_1\text{-}C_6\text{-alkyl}$ ;
- 10          R<sup>4</sup>, R<sup>5</sup>    are hydrogen, halogen, cyano, nitro,  $C_1\text{-}C_4\text{-alkyl}$ ,  
 $C_1\text{-}C_4\text{-alkoxy-C}_1\text{-}C_4\text{-alkyl}$ , di( $C_1\text{-}C_4\text{-alkoxy)$ - $C_1\text{-}C_4\text{-alkyl}$ ,  
 $\text{alkyl}$ , di( $C_1\text{-}C_4\text{-alkyl)$ -amino- $C_1\text{-}C_4\text{-alkyl}$ ,  
 $[2,2\text{-di}(C_1\text{-}C_4\text{-alkyl)}\text{-}1\text{-hydrazinol-C}_1\text{-}C_4\text{-alkyl}$ ,  
 $C_1\text{-}C_6\text{-alkylminooxy-C}_1\text{-}C_4\text{-alkyl}$ ,  $C_1\text{-}C_4\text{-alkoxycarbonyl-C}_1\text{-}C_4\text{-alkyl}$ ,  
 $C_1\text{-}C_4\text{-alkylthio-C}_1\text{-}C_4\text{-alkyl}$ ,  
 $C_1\text{-}C_4\text{-haloalkyl}$ ,  $C_1\text{-}C_4\text{-cyanoalkyl}$ ,  $C_3\text{-}C_8\text{-cycloalkyl}$ ,  
 $C_1\text{-}C_4\text{-alkoxy}$ ,  $C_1\text{-}C_4\text{-alkoxy-C}_2\text{-}C_4\text{-alkoxy}$ ,  
 $C_1\text{-}C_4\text{-haloalkoxy}$ ,  $C_1\text{-}C_4\text{-alkylthio}$ ,  
 $C_1\text{-}C_4\text{-haloalkylthio}$ , di( $C_1\text{-}C_4\text{-alkyl)$ amino, COR<sup>6</sup>,  
phenyl or benzyl, it being possible for the two  
last-mentioned substituents to be fully or partially  
halogenated and/or to have attached to them one to  
three of the following groups:  
20          nitro, cyano,  $C_1\text{-}C_4\text{-alkyl}$ ,  $C_1\text{-}C_4\text{-haloalkyl}$ ,  
 $C_1\text{-}C_4\text{-alkoxy}$  or  $C_1\text{-}C_4\text{-haloalkoxy}$ ;
- 25          or
- 30          R<sup>4</sup> and R<sup>5</sup> together form a  $C_2\text{-}C_6\text{-alkanediyl}$  chain which can be  
mono- to tetrasubstituted by  $C_1\text{-}C_4\text{-alkyl}$  and/or  
which can be interrupted by oxygen or by a  
nitrogen which is unsubstituted or substituted by  
 $C_1\text{-}C_4\text{-alkyl}$ ;
- 35          or
- 40          R<sup>4</sup> and R<sup>5</sup> together with the corresponding carbon form a  
carbonyl or thiocarbonyl group;
- 45          R<sup>6</sup>        is  $C_1\text{-}C_4\text{-alkyl}$ ,  $C_1\text{-}C_4\text{-haloalkyl}$ ,  $C_1\text{-}C_4\text{-alkoxy}$ ,  
 $C_1\text{-}C_4\text{-alkoxy-C}_2\text{-}C_4\text{-alkoxy}$ ,  $C_1\text{-}C_4\text{-haloalkoxy}$ ,  
 $C_3\text{-}C_6\text{-alkenyoxy}$ ,  $C_3\text{-}C_6\text{-alkynyoxy}$  or NR<sup>7</sup>R<sup>8</sup>;
- 47          R<sup>7</sup>        is hydrogen or  $C_1\text{-}C_4\text{-alkyl}$ ;
- 48          R<sup>8</sup>        is  $C_1\text{-}C_4\text{-alkyl}$ ;

- X is O, S, NR<sup>9</sup>, CO or CR<sup>10</sup>R<sup>11</sup>;
- Y is O, S, NR<sup>12</sup>, CO or CR<sup>13</sup>R<sup>14</sup>;
- 5 R<sup>9</sup>, R<sup>12</sup> are hydrogen or C<sub>1</sub>-C<sub>4</sub>-alkyl;
- 10 R<sup>10</sup>, R<sup>11</sup>, R<sup>13</sup>, R<sup>14</sup> are hydrogen, C<sub>1</sub>-C<sub>4</sub>-alkyl, C<sub>1</sub>-C<sub>4</sub>-haloalkyl,  
C<sub>1</sub>-C<sub>4</sub>-alkoxycarbonyl, C<sub>1</sub>-C<sub>4</sub>-haloalkoxycarbonyl or  
CONR<sup>7</sup>R<sup>8</sup>;
- 15 or
- 15 R<sup>4</sup> and R<sup>9</sup> or R<sup>4</sup> and R<sup>10</sup> or R<sup>5</sup> and R<sup>12</sup> or R<sup>5</sup> and R<sup>13</sup> together  
form a C<sub>2</sub>-C<sub>6</sub>-alkanediyl chain which can be mono- to  
tetrasubstituted by C<sub>1</sub>-C<sub>4</sub>-alkyl and/or interrupted  
by oxygen or by a nitrogen which is unsubstituted  
or substituted by C<sub>1</sub>-C<sub>4</sub>-alkyl;
- 20 R<sup>15</sup> is a pyrazole of the formula II which is linked in  
the 4-position
- 25
- 
- II
- 30 where
- 35 R<sup>16</sup> is C<sub>1</sub>-C<sub>6</sub>-alkyl;
- 35 Z is H or SO<sub>2</sub>R<sup>17</sup>;
- 40 R<sup>17</sup> is C<sub>1</sub>-C<sub>4</sub>-alkyl, C<sub>1</sub>-C<sub>4</sub>-haloalkyl, phenyl or  
phenyl which is partially or fully  
halogenated and/or has attached to it one  
to three of the following groups:  
nitro, cyano, C<sub>1</sub>-C<sub>4</sub>-alkyl, C<sub>1</sub>-C<sub>4</sub>-haloalkyl,  
C<sub>1</sub>-C<sub>4</sub>-alkoxy or C<sub>1</sub>-C<sub>4</sub>-haloalkoxy;
- 45 R<sup>18</sup> is hydrogen or C<sub>1</sub>-C<sub>6</sub>-alkyl;

where X and Y are not simultaneously oxygen or sulfur;

- with the exception of  
 5        4-[2-chloro-3-(4,5-dihydroisoxazol-3-yl)-4-methylsulfonyl-  
 benzoyl]-1-ethyl-5-hydroxy-1H-pyrazole,  
 4-[2-chloro-3-(4,5-dihydroisoxazol-3-yl)-4-methylsulfonyl-  
 benzoyl]-1,3-dimethyl-5-hydroxy-1H-pyrazole,  
 10        4-[2-chloro-3-(5-cyano-4,5-dihydroisoxazol-3-yl)-4-methyl-  
 sulfonylbenzoyl]-1,3-dimethyl-5-hydroxy-1H-pyrazole,  
 4-[2-chloro-3-(4,5-dihydrothiazol-2-yl)-4-methylsulfonyl-  
 benzoyl]-1,3-dimethyl-5-hydroxy-1H-pyrazole and  
 4-[2-chloro-3-(thiazoline-4,5-dion-2-yl)-4-methylsulfonyl-  
 benzoyl]-1,3-dimethyl-5-hydroxy-1H-pyrazole;  
 15        or an agriculturally useful salt thereof.
3. A 3-heterocyclyl-substituted benzoyl derivative of the formula I as claimed in claim 1 [or 2], where R<sup>3</sup> is hydrogen.  
 20        4. A 3-heterocyclyl-substituted benzoyl derivative of the formula I as claimed in claim 1 [any of claims 1 to 3], where  
 25        R<sup>1</sup>,R<sup>2</sup>        are nitro, halogen, cyano, C<sub>1</sub>-C<sub>6</sub>-alkyl,  
 C<sub>1</sub>-C<sub>6</sub>-haloalkyl, C<sub>1</sub>-C<sub>6</sub>-alkoxy, C<sub>1</sub>-C<sub>6</sub>-haloalkoxy,  
 C<sub>1</sub>-C<sub>6</sub>-alkylthio, C<sub>1</sub>-C<sub>6</sub>-haloalkylthio,  
 C<sub>1</sub>-C<sub>6</sub>-alkylsulfinyl, C<sub>1</sub>-C<sub>6</sub>-haloalkylsulfinyl,  
 C<sub>1</sub>-C<sub>6</sub>-alkylsulfonyl or C<sub>1</sub>-C<sub>6</sub>-haloalkylsulfonyl.  
 30        5. A 3-heterocyclyl-substituted benzoyl derivative of the formula I as claimed in claim 1 [any of claims 1 to 4], where Z is SO<sub>2</sub>R<sup>17</sup>.  
 35        6. A 3-heterocyclyl-substituted benzoyl derivative of the formula I as claimed in claim 1 [any of claims 1 to 4], where Z is hydrogen.  
 40        7. A 3-heterocyclyl-substituted benzoyl derivative of the formula I as claimed in claim 1 [any of claims 1 to 4 or 6], where X is oxygen and Y is CR<sup>13</sup>R<sup>14</sup>.  
 45        8. A 3-heterocyclyl-substituted benzoyl derivative of the formula I as claimed in claim 1 [any of claims 1 to 4 or 6 or 7], where

0050/47679

- SEARCHED  
INDEXED  
MAILED  
SERIALIZED  
FILED
- 5            R<sup>4</sup>        is halogen, nitro, C<sub>1</sub>-C<sub>4</sub>-alkyl,  
               C<sub>1</sub>-C<sub>4</sub>-alkoxy-C<sub>1</sub>-C<sub>4</sub>-alkyl,  
               C<sub>1</sub>-C<sub>4</sub>-alkoxycarbonyl-C<sub>1</sub>-C<sub>4</sub>-alkyl,  
               C<sub>1</sub>-C<sub>4</sub>-alkylthio-C<sub>1</sub>-C<sub>4</sub>-alkyl, C<sub>1</sub>-C<sub>4</sub>-haloalkyl,  
               C<sub>1</sub>-C<sub>4</sub>-cyanoalkyl, C<sub>3</sub>-C<sub>8</sub>-cycloalkyl, C<sub>1</sub>-C<sub>4</sub>-alkoxy,  
               C<sub>1</sub>-C<sub>4</sub>-alkoxy-C<sub>2</sub>-C<sub>4</sub>-alkoxy, C<sub>1</sub>-C<sub>4</sub>-haloalkoxy,  
               C<sub>1</sub>-C<sub>4</sub>-alkylthio, C<sub>1</sub>-C<sub>4</sub>-haloalkylthio,  
               di(C<sub>1</sub>-C<sub>4</sub>-alkyl)amino, COR<sup>6</sup>, phenyl or benzyl, it  
               being possible for the two last-mentioned  
 10          substituents to be partially or fully halogenated  
               and/or to have attached to them one to three of  
               the following groups:  
               nitro, cyano, C<sub>1</sub>-C<sub>4</sub>-alkyl, C<sub>1</sub>-C<sub>4</sub>-haloalkyl,  
               C<sub>1</sub>-C<sub>4</sub>-alkoxy or C<sub>1</sub>-C<sub>4</sub>-haloalkoxy;
- 15          R<sup>5</sup>        is hydrogen or C<sub>1</sub>-C<sub>4</sub>-alkyl;  
               or
- 20          R<sup>4</sup> and R<sup>5</sup>    together form a C<sub>2</sub>-C<sub>6</sub>-alkanediyl chain which can be  
               mono- to tetrasubstituted by C<sub>1</sub>-C<sub>4</sub>-alkyl and/or  
               which can be interrupted by oxygen or by a  
               nitrogen which is unsubstituted or substituted by  
               C<sub>1</sub>-C<sub>4</sub>-alkyl;
- 25          R<sup>5</sup> and R<sup>13</sup>   together form a C<sub>2</sub>-C<sub>6</sub>-alkanediyl chain which can be  
 30          mono- to tetrasubstituted by C<sub>1</sub>-C<sub>4</sub>-alkyl and/or  
               which can be interrupted by oxygen or by a  
               nitrogen which is unsubstituted or substituted by  
               C<sub>1</sub>-C<sub>4</sub>-alkyl.
- 35          9. A 3-heterocyclyl-substituted benzoyl derivative of the  
               formula I as claimed in claim 1 [any of claims 1 to 4 or 6 to 8], where
- 40          R<sup>4</sup>        is C<sub>1</sub>-C<sub>4</sub>-alkyl, C<sub>1</sub>-C<sub>4</sub>-haloalkyl,  
               C<sub>1</sub>-C<sub>4</sub>-alkoxycarbonyl or CONR<sup>7</sup>R<sup>8</sup>;
- 45          R<sup>5</sup>        is hydrogen or C<sub>1</sub>-C<sub>4</sub>-alkyl;  
               or

<sup>4</sup>R and <sup>5</sup>R together form a C<sub>2</sub>-C<sub>6</sub>-alkanesdiyl chain which can be mono- to tetrasubstituted by C<sub>1</sub>-C<sub>4</sub>-alkyl and/or which can be interrupted by oxygen or by a nitrogen which is unsubstituted or substituted by C<sub>1</sub>-C<sub>4</sub>-alkyl;

or

<sup>10</sup> R<sup>5</sup> and R<sup>13</sup> together form a C<sub>2</sub>-C<sub>6</sub>-alkanediyI chain which can be mono- to tetrasubstituted by C<sub>1</sub>-C<sub>4</sub>-alkyl and/or which can be interrupted by oxygen or by a nitrogen which is unsubstituted or substituted by C<sub>1</sub>-C<sub>4</sub>-alkyl.

15 10. A 3-heterocyclyl-substituted benzoyl derivative of the  
formula I as claimed in claim 1 [any of claims 1 to 4 or 6 or 7], where  
 $R^4$  and  $R^5$  are hydrogen.

20. 11. A 3-heterocyclyl-substituted benzoyl derivative of the formula I as claimed in claim 1 [any of claims 1 to 4 or 6 or 7 or 10], where R<sup>18</sup> is hydrogen.

25 12. 4- [2-Chloro-3-(4,5-dihydroisoxazol-3-yl)-4-methylsulfonyl-  
benzoyl]-1-methyl-5-hydroxy-1H-pyrazole.

13. An agriculturally useful salt of 4-[2-chloro-3-(4,5-dihydroisoxazol-3-yl)-4-methylsulfonylbenzoyl]-1-methyl-5-hydroxy-1H-pyrazole.

14. A 3-heterocyclyl-substituted benzoyl derivative of the formula I as claimed in claim 1 [any of claims 1 to 4 or 6], where

35 X is S, NR<sup>9</sup>, CO or CR<sup>10</sup>R<sup>11</sup>;

87

$\text{Y}$  is O, S, NR<sup>12</sup> or CO.

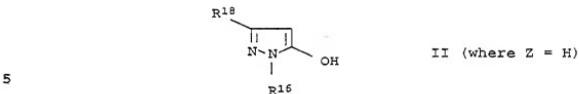
40  
15. A 3-heterocyclyl-substituted benzoyl derivative of the formula I as claimed in claim 1 [any of claims 1 to 4 or 6 or 14], where R<sup>18</sup> is hydrogen.

45

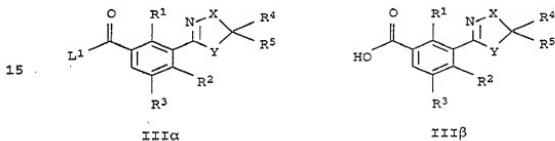
16. A 3-heterocyclyl-substituted benzoyl derivative of the formula I as claimed in claim 1 [any of claims 1 to 4 or 6 or 14], where

- 5      R<sup>4</sup>      is halogen, cyano, nitro, C<sub>1</sub>-C<sub>4</sub>-alkyl,  
       C<sub>1</sub>-C<sub>4</sub>-alkoxy-C<sub>1</sub>-C<sub>4</sub>-alkyl,  
       C<sub>1</sub>-C<sub>4</sub>-alkoxycarbonyl-C<sub>1</sub>-C<sub>4</sub>-alkyl,  
       C<sub>1</sub>-C<sub>4</sub>-alkylthio-C<sub>1</sub>-C<sub>4</sub>-alkyl, C<sub>1</sub>-C<sub>4</sub>-haloalkyl,  
       C<sub>1</sub>-C<sub>4</sub>-cyanoalkyl, C<sub>3</sub>-C<sub>8</sub>-cycloalkyl, C<sub>1</sub>-C<sub>4</sub>-alkoxy,  
       C<sub>1</sub>-C<sub>4</sub>-alkoxy-C<sub>2</sub>-C<sub>4</sub>-alkoxy, C<sub>1</sub>-C<sub>4</sub>-haloalkoxy,  
       C<sub>1</sub>-C<sub>4</sub>-alkylthio, C<sub>1</sub>-C<sub>4</sub>-haloalkylthio,  
       di(C<sub>1</sub>-C<sub>4</sub>-alkyl)amino, COR<sup>6</sup>, phenyl or benzyl, it  
       being possible for the two last-mentioned  
       10     substituents to be partially or fully halogenated  
       and/or to have attached to them one to three of  
       the following groups:  
       nitro, cyano, C<sub>1</sub>-C<sub>4</sub>-alkyl, C<sub>1</sub>-C<sub>4</sub>-haloalkyl,  
       C<sub>1</sub>-C<sub>4</sub>-alkoxy or C<sub>1</sub>-C<sub>4</sub>-haloalkoxy;
- 15     R<sup>5</sup>      is hydrogen or C<sub>1</sub>-C<sub>4</sub>-alkyl,  
       or
- 20     R<sup>4</sup> and R<sup>5</sup> together form a C<sub>2</sub>-C<sub>6</sub>-alkanediyl chain which can be  
       mono- to tetrasubstituted by C<sub>1</sub>-C<sub>4</sub>-alkyl and/or  
       which can be interrupted by oxygen or by a  
       nitrogen which is unsubstituted or substituted by  
       C<sub>1</sub>-C<sub>4</sub>-alkyl;  
       30     or
- 25     R<sup>4</sup> and R<sup>9</sup> or R<sup>4</sup> and R<sup>10</sup> or R<sup>5</sup> and R<sup>12</sup> or R<sup>5</sup> and R<sup>13</sup> together  
       form a C<sub>2</sub>-C<sub>6</sub>-alkanediyl chain which can be mono- to  
       tetrasubstituted by C<sub>1</sub>-C<sub>4</sub>-alkyl and/or which can be  
       interrupted by oxygen or by a nitrogen which is  
       unsubstituted or substituted by C<sub>1</sub>-C<sub>4</sub>-alkyl;
- 35     R<sup>18</sup>      is C<sub>1</sub>-C<sub>6</sub>-alkyl.

- 40     17. A process for the preparation of 3-heterocyclyl-substituted  
       benzoyl derivatives of the formula I as claimed in claim 1,  
       which comprises acylating the pyrazole of the formula II  
       45     where Z = H, where the variables R<sup>16</sup> and R<sup>18</sup> have the meanings  
       given under claim 1,



with an activated carboxylic acid III $\alpha$  or with a carboxylic acid III $\beta$ ,

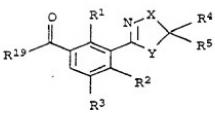


where the variables R<sup>1</sup> to R<sup>5</sup>, X and Y have the meanings given under claim 1 and L<sup>1</sup> is a nucleophilically displaceable leaving group, subjecting the acylation product to a rearrangement reaction in the presence or absence of a catalyst to give the compounds I (where Z = H) and, if desired, to prepare 3-heterocyclyl-substituted benzoyl derivatives of the formula I where Z = SO<sub>2</sub>R<sup>17</sup>, reacting the product with a compound of the formula V.

18. A 3-heterocyclyl-substituted benzoic acid derivative of the formula III.

45

5



10

where  $R^{19}$  is hydroxyl or a radical which can be removed by hydrolysis and variables  $R^1$  to  $R^5$ , X and Y have the meanings given under [the claims 1 to 18] claim 1, with the exception of methyl

15

2-chloro-3-(4,5-dihydroisoxazol-3-yl)-4-methylsulfonylbenzoate, methyl 2-chloro-3-(4,5-dihydrooxazol-2-yl)-4-methylsulfonylbenzoate and methyl 2,4-dichloro-3-(5-methylcarbonyloxy-4,5-dihydroisoxazol-3-yl)benzoate.

20

19. A 3-heterocyclyl-substituted benzoic acid derivative of the formula III [as claimed in claim 18] where the variables  $R^1$  to  $R^5$ , X and Y have the meanings given under claim 2 [claims 2 to 16].

25

20. A 3-heterocyclyl-substituted benzoic acid derivative of the formula III as claimed in claim 18 [either of claims 18 or 19], where

$R^{19}$  is halogen, hydroxyl or  $C_1$ - $C_6$ -alkoxy.

30

21. A composition comprising a herbicidally active amount of at least one 3-heterocyclyl-substituted benzoyl derivative of the formula I or of an agriculturally useful salt of I as claimed in claim 1 [any of claims 1 to 16], and auxiliaries conventionally used for the formulation of crop protection products.

35

22. A process for the preparation of a composition as claimed in claim 21, which comprises mixing a herbicidally active amount of at least one 3-heterocyclyl-substituted benzoyl derivative of the formula I or of an agriculturally useful salt of I [as claimed in any of claims 1 to 16] and auxiliaries conventionally used for the formulation of crop protection products.

40

23. A method of controlling undesirable vegetation, which comprises allowing a herbicidally active amount of at least one 3-heterocyclyl-substituted benzoyl derivative of the

0050/47679

formula I or of an agriculturally useful salt of I as claimed  
in claim 1 [any of claims 1 to 16] to act on plants, their environment  
and/or on seeds.

20

25

30

35

40

45